

REMARKS

In the last Office Action, claims 1-3, 5, 6 and 10 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,536,962 to Takahashi, claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi in view of U.S. Patent No. 6,485,200 to Tanikawa et al. ("Tanikawa"), and claims 7-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takahashi and U.S. Patent No. 5,555,059 to Seo et al. ("Seo") in view of U.S. Patent No. 4,306,164 to Itoh et al. ("Itoh"). Claim 5 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The restriction requirement made in the first Office Action was repeated and made final. The drawings filed with the application were accepted by the Examiner. The Examiner also acknowledged applicants' claim for foreign priority under 35 U.S.C. §119 and acknowledged receipt of the priority document, thereby perfecting the foreign priority claim.

In accordance with this response, claims 1, 3, 5, 6, 7 and 10 have been amended, non-elected claims 11-20 have been canceled, and new claims 21-24 have been added. The specification has been revised in minor editorial respects and to provide a direct antecedent basis for the claim language.

Applicants respectfully request reconsideration of their application in view of the foregoing amendments and the following discussion.

The present invention embraced by claims 1-10 and 21-24 pertains to a sector drive assembly for a camera comprised of a sector unit and a sector driving unit that are removably connected together to enable simple removal, repair and replacement of one unit relative to the other and to permit the use of a universal driving unit with various types of sector units.

In accordance with one preferred embodiment of the invention shown in the drawings, the sector drive assembly comprises a sector unit U having a base plate 1 having an aperture 1a, and one or more sectors 12 for opening and closing the aperture, and a sector drive unit D having a support plate 3, an electromagnetic actuator 4 mounted to the support plate 3, an intermediate member 6 opposed to the support plate 3 and mounted thereto for retaining the electromagnetic actuator 4 in a predetermined position between the support plate and the intermediate member, and a drive force transmitting mechanism T mounted to the support plate 3 for transmitting a drive force of the electromagnetic actuator 4 to the one or more sectors 12. In accordance with the invention, the sector drive unit D is removably mountable as a unit to the base plate 1 of the sector unit U.

As shown in Figs. 3-4, the intermediate member 6 is detachably connected to the support plate 3 by, for example, latch devices 3b, 3b. Once connected together, the intermediate member 6 retains the electromagnetic actuator 4 and the drive force transmitting mechanism T in predetermined positions between the support plate 3 and the intermediate member 6. On the bottom face of the intermediate member 6, as viewed in Fig. 3, are provided mounting portions 6f, 6g that are removably mountable to the upper face of the base plate 1, and fixing members, such as fasteners 10, 10, are insertable through the base plate 1 and engageable with respective ones of the mounting portions 6f, 6g to removably mount the sector drive unit D to the sector unit U. In this manner, the sector drive unit may be quickly and easily removed as a unit from the sector unit.

Amended independent claim 1 recites a sector drive assembly for a camera comprising a sector unit which comprises a base plate having an aperture and one or more sectors for opening and closing the aperture, and a sector drive unit comprising a support plate, an electromagnetic actuator mounted to the support plate, an intermediate member opposed to the support plate and mounted thereto for retaining the electromagnetic actuator in a predetermined position between the opposed support plate and intermediate member, and a drive

force mechanism mounted to the support plate for transmitting a drive force of the electromagnetic actuator to the one or more sectors, the sector drive unit being removably mountable as a unit to the base plate. No corresponding structures disclosed or suggested by the prior art.

The primary reference to Takahashi, which was applied against original claim 1, discloses a sector drive assembly for a camera comprising a sector unit having a base plate 1 having an aperture 1a and one or more sectors 31-35 for opening and closing the aperture, and a sector drive unit comprising a support plate 11, an electromagnetic actuator 16 mounted to the support plate 11 and a driving force transmitting mechanism 18-20 (shown in Fig. 4) for transmitting a driving force of the actuator 16 to the sectors, the sector drive unit being removable mounted as a unit to the base plate 1.

More specifically, Takahashi discloses, as shown in Fig. 3, a mounting member 11, which the Examiner has interpreted as a support plate for the purpose of applying the reference to the claim. The mounting member (support plate) 11 has a base portion that is screwed to the base plate 1 by screws 12, 13, and upstanding walls 11a, 11b that are perpendicular to the base plate 1, i.e., perpendicular to the plane of the paper in Fig. 3. As shown in Fig. 4, the motor

(actuator) 16 is attached to the wall 11a by two screws 14, 15 (column 6, lines 32-33), and the driving force transmitting mechanism is mounted to the two walls 11a and 11b. By such a construction, the sector drive unit may be removed from the base plate 1 by removal of the screws 12, 13.

However, unlike the present invention, the Takahashi sector drive unit does not have an intermediate member corresponding to the intermediate member 6 of the present invention and which is opposed to the support plate 1 and mounted thereto for retaining the actuator 16 in a predetermined position between the opposed support plate and intermediate member. In Takahashi, there is no structure that corresponds to the claimed intermediate member, nor would it have been obvious to one of ordinary skilled in the art to have modified Takahashi to include such an intermediate member based on the prior art of record.

The secondary reference to Tanikawa, Seo and Itoh have been applied for their teaching of various features recited in the dependent claims. None of these references, however, contain any teaching that would have led one of ordinary skill in the art to modify the Takahashi sector drive assembly to incorporate an intermediate member as required by amended independent claim 1.

Newly added dependent claims 21-24 recite further features of the intermediate member, none of which is disclosed by the prior art.

Dependent claims 3, 5, 6, 7 and 10 have been amended to change "sectors" to --one or more sectors-- to be consistent with base claim 1. In addition, claim 5 has been amended to overcome the objection noted by the Examiner and as amended, claim 5 specifies that the one or more sectors each have sector arms connected thereto. Though claim 5 has been amended to delete the recitation that the one or more sectors "comprise a plurality of sectors", applicants respectfully point out that the original wording is not indefinite.

Independent claim 1 recites one or more sectors, which covers both alternatives. Original claim 5 recited that the one or more sectors is limited to the alternative of plural sectors, which is perfectly proper and not indefinite. Nonetheless, claim 5 has been amended to delete the objected to wording.

In view of the foregoing, the application is now believed to be in allowable form. Accordingly, favorable reconsideration and passage of the application to issue are respectfully requested.

Respectfully submitted,

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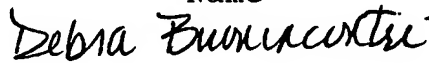
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